DOCUMENT RESUME

ED 058 928 PS 004 573

TITLE	Evaluation of Los Angeles County Head Start Program, 1969-1970.
INSTITUTION	Los Angeles County Economic and Youth Opportunities Agency, Calif.
PUB DATE	Sep 70
NOTE	26p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Cognitive Development; Compensatory Education Programs; Early Childhood Education; Interpersonal Competence; *Measurement Instruments; *Preschool Evaluation; *Program Effectiveness; *Program Evaluation; Skill Development
IDENTIFIERS	Bettye Caldwell Preschool Inventory; *Head Start Program

ABSTRACT

In October 1969 and again six months later, in April 1970, the Bettye Caldwell Preschool Inventory was administered to Head Start children in Los Angeles County. In all, 704 pre- and post-tests were obtained. The purpose of the testing was to assess one of the goals of the Head Start Program: to enrich the experience of preschool children and to develop those cognitive and social skills which are regarded as essential to success in school. The results showed that, as measured by the Bettye Caldwell Test, Head Start for Los Angeles County was an effective program for developing those skills which are regarded as essential to success in school. The gains are clearly evident in the comparison of pre- and post-test means, in the shifting of the means to higher percentiles on the lower and middle class norms, and on the steady increase in the means with increasing attendance in the program. (Author)

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E V A L U A T I O N

OF LOS ANGELES COUNTY

HEAD START PROGRAM

1969-1970

PS 004873

ECONOMIC AND YOUTH OPPORTUNITIES AGENCY
Research and Evaluation Division

September, 1970

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EVALUATION OF THE LOS ANGELES COUNTY HEAD START PROGRAM

I. PURPOSE

In October 1969 and again six months later, in April 1970, the Bettye Caldwell Preschool Inventory was administered to Head Start children in Los Angeles County. The purpose of the testing was to assess one of the goals of the Head Start Program: to enrich the experience of preschool children and to develop those cognitive and social skills which are regarded as essential to success in school.

An evaluation of the testing program was undertaken in July and August of 1970. It is an ex post facto evaluation and subject to all the deficiencies of such an evaluation.

II. TEACHERS' RESPONSE TO THE BETTYE CALDWELL INVENTORY

For the purposes of this evaluation, the assumption is made that the test itself is a valid instrument; i.e., that it measures what it purports to measure.

While the teachers in the Head Start Program had many criticisms of the test during 1968-1969, there were only a few this year. The principal objection was that the test had a cultural bias. This was certainly true and in fact it is the aim of the test to determine the culturally disadvantaged and the degree to which they are disadvantaged. This was not understood by the teachers in 1968-1969.

Following the criticisms of the preceding year an educational program was instituted to inform the classroom teachers of the purpose of the test and how to administer it properly. This effort was to be deemed successful if the test was understood and administered by all classroom teachers. To the knowledge of this evaluator there was only one serious objection by one teacher who refused to give the test believing it to be unfair.

III SAMPLE

Approximately two thousand tests were administered in a somewhat random fashion throughout all of the sixteen

delegate agencies in Los Angeles County. However, tests were returned from only twelve agencies. Of these tests, only 704 were usable or at least scored.

It is assumed that these 704 tests, which have both pre-test and post-test results, are a valid sample of the population. This sample represents about ten percent of the children in the Los Angeles County Head Start Program.

IV. SCORING AND ANALYSIS OF DATA

The tests were scored and analyzed by computer at the EYOA office. The results were analyzed by this evaluator at UCLA. Comparison of pre- and post-test scores for the total population tested and for various characteristics of the population was made by determining the means, standard deviations and student's "t".

V. RESULTS

A. The first question to be answered was how effective the Los Angeles Head Start Program was in obtaining the achievements that the Bettye Caldwell Preschool Inventory purports to measure. The hypothesis states that participation in Head Start produces differences between pre- and post-tests no better than chance.

The pre- and post-test scores and standard deviations were respectively 35.58 ± 16.80 and 57.32 ± 14.60. The "t" for these is 26.19, indicating a highly significant difference. There are other factors to consider, however.

1. The first of these factors is maturation, and it may be explored by advancing another hypothesis; namely, that the difference in scores is due to maturation of the child and is independent of the educational process. An examination of the scores for lower income children at the 50th percentile indicates that the child between the ages of 4 years, 1 month to 4 years, 6 months, and 4 years, 7 months to 5 years matures by 3 points on the Bettye Caldwell Inventory. This still leaves over 18 points to be accounted for in some other way. Therefore, the hypothesis that the change from the pre-test to the post-test scores is due only to maturation is rejected.

2. The second factor to be considered is that the children learned from the pre-test. Most known methods of allowing for this phenomenon

could only account for 4 to 5 points difference over this span of time and it is the judgment of this evaluator that the retention could not account for more than that. Therefore, lacking any controls for this type of phenomenon, the assumption is made that the effect is not significant and the hypothesis is rejected.

3. A third factor that might have accounted for the change in pre- and post-test scores is that the teachers taught to the test. This might be possible and cannot be ruled out in all cases, but it is doubtful that very many experienced teachers would do this. There are no data to support or reject this hypothesis; therefore, for the purpose of this evaluation, it is assumed that the teachers did not teach to the test.

The effectiveness of the Head Start Program, as shown in the difference between the pre- and post-test scores, is also indicated in two other measures.

First, substantial gains are indicated by the 4.0 - 4.5-year-old Head Start children who moved after six months from the 32nd percentile to the 75th

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percentile on the lower class norms and by the 3.5-4.0-year-olds who moved from the 10th percentile to the 40th percentile on the middle class norms.

Secondly, on the post-test there is a steady increase in the mean scores with increasing attendance in the Head Start Program. Thus, the children with an attendance of 101 - 12- days obtained a mean score of 53.71 $\pm$ 17.12; those with an attendance of 121 - 140 days, a mean of 56.20 $\pm$ 14.19; those with an attendance of 141 - 160 days, a mean of 58.67 $\pm$ 13.09; and those with an attendance of 161 - 180 days, a mean of 61.66 (see Table II). The difference in scores between the lowest and the highest attendance is statistically highly significant.

B. The second major hypothesis concerns the various delegate agencies and states that the differences between the post- and pre-test scores of the various agencies and the County mean would be no more than those differences produced by chance.

Comparing each delegate agency's results with the County mean indicates that in the pre-test four delegate agencies differed significantly from the County mean, three being above and one being below the County mean. In the post-test, five delegate agencies were significantly above and two were significantly below the mean. The hypothesis is, therefore, rejected. (It is suggested that in future studies a systematic comparison of delegate agencies along various dimensions be undertaken to pin-point the reasons for these differences).

C. The third hypothesis states that boys and girls will show no differences from the County mean in either their pre-tests or post-tests other than those due to chance. This hypothesis is sustained for both the pre-and the post-tests for both boys and girls (see table II).

D. The fourth hypothesis states that the educational intervention of the program will produce no differences in the test scores of Head Start children who speak either English or Spanish, other than those due to chance. This hypothesis is rejected. It is apparent that the Spanish-language children fall

further below the County mean than could be accounted for by chance and the English-speaking further above the County mean than could be accounted for by chance. Also, on both the pre-tests and the post-tests there are significant differences between the English-speaking and the Spanish-speaking children's scores. (See Table II). However, for both groups of children, the post-test scores present a significant increase over the pre-test scores.

E. The fifth hypothesis states the ethnic background of the Head Start children produces no difference in their test scores other than those due to chance. This hypothesis is rejected. On both the pre- and post-tests the Negro and Anglo children scored significantly above the County mean, and the Mexican-American children scored significantly below the County mean (Table II).

F. The sixth hypothesis states that the home background of the Head Start children makes no difference in their test scores other than those due to chance; home background being defined as one parent only present, both parents present and foster home. The results indicate that children with one parent do

significantly better on the test than the County mean, children with two parents, significantly poorer. These differences pertain, however, only to the pre-test; they do not occur on the post-test. One might speculate about reasons for the pre-test results, but since there is no evidence for these speculations, it seems best to refrain from them (see Table II).

G. The seventh hypothesis states that the educational background of the mothers of Head Start children will have no effect on the children's test scores other than those due to chance. This hypothesis is rejected. On both the pre- and post-test the children of mothers whose educational achievement was 7th grade or less obtained scores significantly lower than the County mean and the children of mothers with an 8th to 11th grade, a 12th grade and a 13th grade education did significantly better than the County mean. The only exception occurs in the post-test in case of the mothers with an 8th to 11th grade education (see Table VII).

H. The final set of hypotheses relates to the teaching certification and teaching experience of Head Start teachers. The first of these hypotheses states that the teachers' certifications, whether they are

teachers with a Child Center Provisional Credential, Child Center Regular Credential, Kindergarten or Elementary School Credential, will produce no differences in the children's test scores, other than those due to chance. This hypothesis is sustained (see Table III).

The second hypothesis states that the educational intervention of teachers with various years of teaching experience would produce differences in the test scores of the children no greater than chance. This is also accepted (see Table III).

VI. SUMMARY

In summary it may be said that, as measured by the Bettye Caldwell Test, Head Start for Los Angeles County was an effective program for developing those skills which are regarded as essential to success in school. The gains are clearly evident in the comparison of pre- and post-test means, in the shifting of the means to higher percentiles on the lower and middle class norms, and on the steady increase in the means with increasing attendance in the program.

VII. RECOMMENDATIONS

It is recommended that training for teachers in the administration of the Bettye Caldwell Inventory be continued and improved. Considerable number of test scores were unusable because of missing scores on some test questions.

It is further suggested that criteria used in the analysis be more precisely defined to increase our understanding of their effects on test scores.

It is also recommended that the Bettye Caldwell Test not be used with non-English speaking or bilingual children.

It is further recommended that other aspects of the Head Start Program be evaluated, such as health, social and community objectives.

Finally, it is proposed that a critique of the Bettye Caldwell Inventory be undertaken in terms of its applicability to the Head Start Program.

TABLE I

BETTYE CALDWELL PRE-SCHOOL INVENTORY TEST, 1969-1970

"t" TEST FOR DELEGATE AGENCIES
COMPARED TO COUNTY TOTAL
MEAN

PRE-TEST
(County Mean=35.58, Std. Dev.=16.80)

Delegate Agency #	Mean	Standard Deviation	Calculated "t"	Difference from County Mean at 0.05 Level?
03	37.64	15.08	0.75	No
04	48.00	13.04	4.06	Yes
06	33.30	17.33	1.26	No
08	39.50	15.95	1.15	No
09	33.92	10.36	0.55	No
10	39.75	13.53	1.44	No
11	38.35	14.89	2.33	Yes
12	33.16	15.66	0.74	No
15	41.32	14.48	2.73	Yes
41	22.16	16.57	3.04	Yes

POST-TEST
(County Mean=57.32, Std. Dev.=14.60)

03	56.48	12.33	0.38	No
04	68.95	7.99	6.12	Yes
06	54.04	15.50	2.93	Yes
08	65.08	11.03	3.29	Yes
09	65.23	12.57	2.16	Yes
10	57.75	10.58	0.19	No
11	56.65	15.26	0.49	No
12	56.12	13.04	0.44	No
13	51.70	6.68	2.45	Yes
15	62.53	9.21	3.75	Yes
41	66.03	10.53	4.42	Yes

TABLE II

BETTYE CALDWELL PRESCHOOL INVENTORY TEST 1969-1970

"t" TEST FOR VARIOUS CATEGORIES COMPARED TO COUNTY TOTAL MEAN

BY SEX

PRE-TEST (County Mean = 35.58, Standard Deviation = 16.80)

CATEGORY	MEAN	STD. DEV.	CALCULATED "t"	DIFFERENCE FROM COUNTY MEAN AT 0.05 LEVEL?
Boys	35.24	16.73	0.31	No
Girls	35.91	16.86	0.30	No

POST-TEST (County Mean = 57.32, Standard Deviation = 14.60)

Boys	57.64	14.23	0.34	No
Girls	57.10	14.95	0.23	No

PRE-TEST BY LANGUAGE (Compared to County Mean)

English	40.30	13.80	5.49	Yes
Spanish	17.74	15.12	12.71	Yes

POST-TEST

English	59.26	13.13	2.48	Yes
Spanish	49.87	17.28	4.87	Yes

ENGLISH (Compared to Spanish)

Pre-test			16.07	Yes
Post-Test			6.10	Yes

BY ETHNIC GROUP (Compared to County Mean)

PRE-TEST

Mexican-American	30.15	17.34	4.81	Yes
Negro	39.85	13.35	3.53	Yes
Anglo	43.09	14.22	5.82	Yes
Other Non-White	32.74	19.00	0.81	No

TABLE II (continued)

CATEGORY	MEAN	STD. DEV.	CALCULATED "t"	DIFFERENCE FROM COUNTY MEAN AT 0.05 LEVEL?
		BY ETHNIC GROUP (continued)		
POST-TEST				
Mexican-American	54.21	15.87	3.05	Yes
Negro	59.77	12.22	2.48	Yes
Anglo	61.02	13.11	3.14	Yes
Other	57.58	15.24	0.09	No
		BY NUMBER OF PARENTS (Compared to County Mean)		
PRE-TEST				
One Parent	39.01	15.16	3.27	Yes
Two Parents	32.13	17.78	2.90	Yes
Foster Home	35.67	15.79	0.04	No
POST-TEST				
One Parent	58.10	14.57	0.80	No
Two Parents	56.31	15.07	1.01	No
Foster Home	58.75	10.95	0.88	No
		BY MOTHER'S EDUCATION		
PRE-TEST				
7th Grade or Less	21.39	16.84	9.34	Yes
8th - 11th Grade	38.75	14.02	3.08	Yes
12th Grade	39.14	15.11	2.99	Yes
13th Grade	47.03	14.22	4.35	Yes

TABLE II (continued)

CATEGORY	MEAN	STD. DEV.	CALCULATED "t"	DIFFERENCE FROM COUNTY MEAN AT 0.05 LEVEL?
BY MOTHER'S EDUCATION (continued)				
POST-TEST				
7th Grade or Less	50.36	16.55	4.64	Yes
8th - 11th Grade	58.08	13.78	0.29	No
12th Grade	59.67	13.20	2.16	Yes
13th Grade	66.16	8.50	5.36	Yes

BY DAYS OF ATTENDANCE AT TIME OF POST-TEST

	PRE-TEST		POST-TEST	
ATTENDANCE	MEAN	STD. DEV.	MEAN	STD. DEV.
1 - 20 Days	30.00	0.00	60.00	0.00
21 - 40 Days	0.00	0.00	0.00	0.00
41 - 60 Days	31.50	12.82	41.50	24.62
61 - 80 Days	43.73	13.74	50.27	23.25
81 - 100 Days	36.05	10.25	51.55	15.98
101 - 120 Days	38.68	14.17	53.71	17.12
121 - 140 Days	33.82	16.83	56.20	14.19
141 - 160 Days	35.70	17.03	58.67	13.09
161 - 180 Days	34.93	19.79	61.66	14.38

TABLE III

BETTYE CALDWELL PRE-SCHOOL INVENTORY TEST 1969 - 1970

"t" TEST FOR TEACHER CERTIFICATION

CATEGORY	MEAN	STD. DEV.	CALCULATED "t"	DIFFERENCE FROM COUNTY MEAN AT 0.05 LEVEL?
		PRE-TEST		
Child Center Prov.	33.69	17.31	1.58	No
Child Center Regular	37.10	16.75	1.27	No
Kindergarten	37.18	16.10	0.55	No
Elementary	36.55	13.60	0.24	No
Other	35.24	19.92	0.08	No
		POST-TEST		
Child Center Prov.	58.42	13.46	1.13	No
Child Center Regular	56.27	16.28	0.93	No
Kindergarten	54.53	12.32	1.73	No
Elementary	58.77	11.23	1.10	No
Other	54.88	18.87	1.20	No

COMPARING VARIOUS GROUPS

POST-TEST

Provisional vs. Regular	"t" = 1.48	No
Provis'nl vs. Kindergarten	"t" = 1.71	No
Regular vs. Kindergarten	"t" = 0.85	No

TABLE IV

BETTYE CALDWELL PRE-SCHOOL INVENTORY TEST 1969 - 1970

"t" TEST FOR TEACHING EXPERIENCE

CATEGORY	MEAN	STD. DEV.	CALCULATED "t"	DIFFERENCE FROM COUNTY MEAN AT 0.05 LEVEL?
		PRE-TEST		
None	37.57	14.33	0.85	No
1 - 2 Years	37.86	14.89	1.45	No
2 - 3 Years	34.65	17.19	0.76	No
4 - 5 Years	34.54	16.80	0.69	No
6 -10 Years	35.94	16.95	0.23	No
11 or More Years	39.11	17.86	1.13	No
		POST-TEST		
None	54.74	16.61	0.97	No
1 - 2 Years	56.68	15.57	0.312	No
2 - 3 Years	57.15	14.30	0.16	No
4 - 5 Years	58.75	12.39	1.25	No
6 -10 Years	57.78	15.34	0.33	No
11 or More Years	54.71	17.00	0.88	No

TABLE V

BETTYE CALDWELL PRE-SCHOOL INVENTORY TEST 1969 - 1970

RANK CHANGE ON TOTAL SCORE

Location of Pre-test to Post-test Means by Various Age Groups on Middle Class and Lower Class Norms.

Age	Pre-test Mean	Percentile Lower Class	Percentile Middle Class	Post-test Mean	Percentile Lower Class	Percentile Middle Class
3.5 - 4.0	31.63	66	10			
4.0 - 4.5	35.75	32	<5	55.02	78	40
4.5 - 5.0	39.26	39	<5	56.14	75	9
5.0 - 5.5	30.00*	<5	<5	59.84	80	18
5.5 - 6.0	10.00*	<5	<5	54.50	44	<5

* Not significant - only one measurement

TABLE VI

BETTYE CALDWELL PRE-SCHOOL INVENTORY TEST 1969 - 1970

PRE-TEST CATEGORIES

Delegate Agencies	Total Mean	Total S.D.	Count	Part 1 Mean	Part 1 S.D.	Part 2 Mean	Part 2 S.D.	Part 3 Mean	Part 3 S.D.	Part 4 Mean	Part 4 S.D.
03	37.64	15.08	33	16.24	5.69	4.94	3.12	7.21	3.71	9.24	4.31
04	48.00	13.04	20	19.25	4.67	8.05	2.92	9.20	4.19	11.50	3.65
06	33.30	17.33	253	13.49	6.96	4.21	3.24	6.54	4.24	9.06	4.81
08	39.50	15.95	24	16.13	6.35	5.38	3.76	7.08	3.82	10.92	4.24
09	33.92	10.36	13	14.85	4.17	4.00	1.80	6.38	3.08	8.69	3.17
10	39.75	13.53	24	16.33	5.14	4.58	2.98	7.96	3.28	10.88	3.93
11	38.35	14.89	217	14.97	5.54	5.19	3.06	7.51	3.80	10.67	4.39
12	33.16	15.66	25	13.00	6.14	4.40	3.12	6.24	4.06	9.52	5.28
13	2.60	3.69	10	1.30	1.95	0.00	0.00	0.40	0.92	0.90	1.30
15	41.32	14.48	53	16.74	4.99	5.43	3.38	8.15	3.58	11.00	4.63
41	22.16	16.57	32	8.47	6.33	2.16	2.73	5.00	4.54	6.53	4.58

TABLE VI (continued)

BETTYE CALDWELL PRE-SCHOOL INVENTORY TEST 1969 - 1970

POST-TEST CATEGORIES

Delegate Agencies	Total Mean	Total S.D.	Count	Part 1 Mean	Part 1 S.D.	Part 2 Mean	Part 2 S.D.	Part 3 Mean	Part 3 S.D.	Part 4 Mean	Part 4 S.D.
03	56.48	12.33	33	21.33	4.06	8.97	3.05	11.88	4.03	14.30	3.86
04	68.95	7.99	20	23.95	2.77	12.55	2.64	15.75	2.28	16.70	1.87
06	54.04	15.50	253	19.62	5.02	8.69	4.16	11.35	4.26	14.38	3.95
08	65.08	11.03	24	23.25	3.59	10.71	3.09	14.75	3.23	16.38	2.29
09	65.23	12.57	13	21.62	6.67	10.92	3.77	15.15	2.68	17.54	1.65
10	57.75	10.58	24	21.58	3.40	8.75	3.15	12.83	3.39	14.58	3.45
11	56.65	15.26	217	20.10	5.18	9.46	3.64	11.96	4.02	15.13	3.99
12	56.12	13.04	25	20.16	4.28	8.76	3.82	12.20	3.36	15.00	3.29
13	51.70	6.68	10	18.10	1.92	7.40	2.97	10.80	3.31	15.40	2.62
15	62.53	9.21	53	22.06	2.99	10.36	2.51	13.89	3.05	16.23	2.80
41	66.03	10.53	32	22.03	3.95	11.22	3.02	15.72	3.43	17.06	2.15

TABLE VII

MEANS AND STANDARD DEVIATIONS BY CATEGORY

Category	Count	Part 1 Mean	Part 1 S.D.	Part 2 Mean	Part 2 S.D.	Part 3 Mean	Part 3 S.D.	Part 4 Mean	Part 4 S.D.	Total Mean	Total S.D.
ETHNIC GROUP (Pre-test)											
Mex-Amer	345	11.70	6.71	3.82	3.24	6.02	4.17	8.60	5.00	30.15	17.34
Negro	169	17.20	5.42	5.25	3.06	7.57	3.61	10.15	4.07	39.85	13.35
Anglo	160	17.20	5.23	5.92	3.16	8.39	3.85	11.58	4.19	43.09	14.22
Other	31	13.16	7.17	3.90	3.30	6.55	4.52	9.13	5.27	32.74	19.00
ETHNIC GROUP (Post-test)											
Mex-Amer	345	19.16	5.32	8.70	4.04	11.70	4.24	14.65	3.99	54.21	15.87
Negro	169	22.00	3.78	9.69	3.45	12.82	3.87	15.27	3.51	59.77	12.22
Anglo	160	21.62	4.29	10.43	3.20	13.16	3.89	15.81	3.45	61.02	13.11
Other	31	20.61	4.43	9.68	4.04	12.06	4.54	15.23	3.69	57.58	15.24
SEX (Pre-test)											
Male	349	13.99	6.44	4.80	3.37	6.88	4.21	9.57	4.70	35.24	16.73
Female	355	14.56	6.60	4.51	3.23	7.05	4.00	9.80	4.84	35.91	16.86
SEX (Post-test)											
Male	349	20.43	4.62	9.65	3.77	12.42	4.17	15.04	3.60	57.64	14.23
Female	355	20.55	5.05	9.13	3.77	12.25	4.05	15.17	3.87	57.10	14.95
MAJOR LANGUAGE (Pre-test)											
English	556	16.25	5.17	5.43	3.10	7.84	3.75	10.78	4.08	40.30	13.80
Spanish	147	6.86	5.76	1.70	2.20	3.64	3.70	5.54	4.94	17.74	15.12
MAJOR LANGUAGE (Post-test)											
English	556	21.29	4.23	9.89	3.44	12.69	3.86	15.39	3.58	59.26	13.13
Spanish	147	17.46	5.72	7.44	4.35	10.95	4.70	14.03	4.13	49.87	17.28

TABLE VII (continued)

Category	Count	Part 1 Mean	Part 1 S.D.	Part 2 Mean	Part 2 S.D.	Part 3 Mean	Part 3 S.D.	Part 4 Mean	Part 4 S.D.	Total Mean	Total S.D.
NUMBER OF PARENTS IN HOME (Pre-test)											
One	326	15.57	5.78	5.22	3.18	7.58	3.87	10.64	4.42	39.01	15.16
Two	326	12.82	7.01	4.18	3.40	6.37	4.22	8.75	4.91	32.13	17.78
Foster Home	52	15.31	5.90	3.98	2.87	6.85	4.28	9.54	4.81	35.67	15.79
NUMBER OF PARENTS IN HOME (Post-test)											
One	326	20.79	4.85	9.74	3.58	12.42	4.12	15.14	3.90	58.10	14.57
Two	326	20.14	4.94	9.01	4.03	12.18	4.14	14.98	3.69	56.31	15.07
Foster Home	52	20.81	3.93	9.48	3.05	12.75	3.87	15.71	2.80	58.75	10.95
MOTHER'S EDUCATION (Pre-test)											
7th Grade or less	149	8.43	6.45	2.33	2.73	4.42	4.25	6.21	4.90	21.39	16.84
8 - 11th Grade	301	15.45	5.52	5.15	3.10	7.69	3.57	10.47	4.15	38.75	14.02
12th Grade	222	16.05	5.65	5.19	3.14	7.36	3.94	10.53	4.47	39.14	15.11
13th Grade	32	18.16	5.24	6.97	3.35	9.25	4.18	12.66	3.48	47.03	14.22
MOTHER'S EDUCATION (Post-test)											
7th Grade or less	149	17.58	5.58	7.66	4.06	11.14	4.44	13.98	4.17	50.36	16.55
8 - 11th Grade	301	20.81	4.56	9.61	3.55	12.46	4.02	15.21	3.62	58.08	13.78
12th Grade	222	21.60	4.01	9.95	3.66	12.61	3.88	15.50	3.57	59.67	13.20
13th Grade	32	23.31	2.52	11.34	2.33	14.84	3.24	16.66	2.30	66.16	8.50
TEACHERS' YEARS OF EXPERIENCE (Pre-test)											
None	42	14.43	5.15	5.43	3.07	7.33	3.65	10.38	4.57	37.57	14.33
1	63	14.97	5.86	4.92	2.74	7.73	3.95	10.24	4.20	37.86	14.89
2 - 3	266	13.88	6.60	4.57	3.45	6.70	4.02	9.50	4.95	34.65	17.19
4 - 5	151	14.36	6.75	4.51	3.16	6.50	3.99	9.17	4.69	34.54	16.80
6 - 10	147	14.33	6.71	4.50	3.42	7.16	4.31	9.95	4.62	35.94	16.95
11 or more	35	15.29	6.66	5.06	3.23	8.40	4.55	10.37	5.17	39.11	17.86
TEACHERS' YEARS OF EXPERIENCE (Post-test)											
None	42	19.10	6.04	9.24	3.70	11.50	4.15	14.90	4.08	54.74	16.61
1	63	20.30	5.15	8.95	3.41	12.46	4.15	14.97	4.33	56.68	15.57
2 - 3	266	20.28	4.49	9.42	3.90	12.30	4.13	15.14	3.65	57.15	14.30
4 - 5	151	21.17	4.41	9.67	3.44	12.65	3.92	15.26	3.15	58.75	12.39
6 - 10	147	20.84	4.83	9.38	3.97	12.42	4.24	15.13	3.94	57.78	15.34
11 or more	35	19.66	6.23	8.83	3.98	11.69	3.92	14.54	4.16	54.71	17.00

TABLE VII (continued)

Category	Count	Part 1 Mean	Part 1 S.D.	Part 2 Mean	Part 2 S.D.	Part 3 Mean	Part 3 S.D.	Part 4 Mean	Part 4 S.D.	Total Mean	Total S.D.
TEACHER CERTIFICATION (Pre-test)											
Child Center Prov.	287	13.65	6.76	4.36	3.35	6.54	4.17	9.14	4.90	33.69	17.31
Child Center Reg.	271	14.80	6.51	4.90	3.30	7.32	4.09	10.07	4.71	37.10	16.75
Kindergarten	33	14.12	6.46	5.36	3.26	7.61	3.79	10.09	4.25	37.18	16.10
Elementary	88	14.68	5.02	4.52	2.86	7.13	3.85	10.22	4.15	36.55	13.60
Other	25	14.48	8.06	4.84	3.90	6.60	4.17	9.32	5.76	35.24	19.92
TEACHER CERTIFICATION (Post-test)											
Child Center Prov.	287	20.61	4.23	9.79	3.73	12.69	4.03	15.33	3.36	58.42	13.46
Child Center Reg.	271	20.28	5.57	9.02	3.97	12.06	4.34	14.91	4.14	56.27	16.28
Kindergarten	33	19.45	4.70	8.82	3.16	11.06	3.30	15.00	3.37	54.33	12.32
Elementary	88	21.07	3.92	9.56	3.19	12.63	3.22	15.52	2.82	58.77	11.23
Other	25	20.76	5.59	8.80	4.24	12.00	5.51	13.32	5.51	54.88	18.87